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ABSTRACT

This paper examines and compares the formation processes and structures of three types of integrative knowledge that in general represent natural sciences, social sciences, and humanities. These three types can be observed, respectively, in the philosophies of Michael Polanyi, Jurgen Habermas, and Paul Ricoeur. These types of integrative knowledge are featured in this paper because practically all academic institutions of higher learning today have divisions of natural sciences, social sciences, and humanities, and because these philosophers have greatly influenced interdisciplinary scholarship in the past few decades. The paper's premise is that a whole is greater than the sum of its parts, a notion that is the foundational principle for integrative knowledge. The examination of these three types of integrative knowledge leads to the conviction that what determines integrative studies is primarily the formation process for, not the content of, the structure of integrative knowledge. The act of integration is a dynamic process of achieving an ideal. Integrative studies are the future-oriented studies that examine primarily the dynamic aspects of the integrating process for achieving those ideals. (MAH)

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Hermeneutics of Integrative Knowledge

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1. Introduction

When we talk about integrative knowledge today in the academic community, do we mean one and the same type of integrative knowledge across all disciplines? Based on different theories of knowledge, different objectives of disciplines, and different goals of human life, natural scientists, social thinkers, and writers and philosophers have developed different types of integrative knowledge. And yet basically they all share the same structure and formation process with different contents. What then are they that make integrative knowledge possible for integrative studies in these areas? Basically they are the structure and formation process of knowledge, not the content of knowledge. This paper will examine and compare the formation processes and structures of three types of integrative knowledge that in general represent natural sciences, social sciences, and humanities. These three types can be observed respectively in the philosophies of Michael Polanyi, Jürgen Habermas, and Paul Ricoeur. To be sure, there are other types of integrative knowledge. The reasons I have chosen those three types of integrative knowledge are, first, that practically all academic institutions of higher learning today have the three divisions of natural sciences, social sciences, humanities, and, second, that these three philosophers have been not only highly respected in their own disciplinary areas representing the three divisions, but also they have greatly influenced interdisciplinary scholarship in the past few decades.

For a meaningful discussion of the structural aspects of integrative knowledge for integrative studies, a premise is in order. It is a well accepted notion among scholars of integrative studies that a whole is greater than the sum of its parts. Strictly speaking, I believe, this notion is the foundational principle for integrative knowledge. Let me explain the reason for the sake of integrative studies. For the structure of integrative knowledge which is the basis of integrative studies, at least two units of different elements such as things, ideas, concepts, views, worldviews, etc. are required for integration. When these elements are integrated, they are integrated in order to realize a certain outcome. That outcome is normally called a whole, and the units participated in the realization of the outcome are called the parts. In the structure of integrative knowledge, integrated units function as the parts for a whole. What then is the relationship between the parts and a whole in integrative knowledge? When the parts are integrated, they are epistemologically integrated by the self who is the integrator of the parts. Thus, when the participation of the self as integrator is added to the integration process of the parts, the whole is bound to be greater than the sum of its parts.

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There are a lot of materials in the world that do not require the self as integrator in their integration process. Practically all physical things in the natural world integrate or divide themselves without human intervention. Oxygen and hydrogen integrate themselves into water. Excessive acid in the air destroys and corrodes many things in nature. Too much water spoils and decays almost anything. Too much heat makes things dry and brittle. Lightning and thunder represent some forms of integration and destruction in the atmospheric world. Destruction can be a form of dividing action. These are only a few examples out of thousands or millions of cases of natural integation and division in the animate world. In addition to these phenomena in the inanimate world, there must be additional thousands or millions cases of integration taking place among living beings in the natural world. Growing is a form of integration. Living beings cannot grow without integrating other elements into themselves. When living beings no longer integrate other elements into their bodies, they begin to die. In the purely natural world, none of those materials need human intervention for their integration. For those materials which do not need human intervention for their integration, there is no need for the self to be an integrator and thus they cannot fundamentaly be the subjects for integrative studies. The best and most accurate studies of these materials have already been demonstrated by natural scientists using the objectivist approach. With the objectivist approach, especially in the study of inanimate things, the recognition of the self as integrator is not needed. For scholars using the objectivist approach, a whole is understood as equal to the sum of its parts. This approach is exactly opposite to that which is taken in integrative studies, and, I hope, it explains the reason why it is necessary to accept the premise for integrative studies.

The formation processes of integrative knowledge in the three types that I will describe in this paper will also reaffirm the premise as the foundational principle of integrative knowledge. With an understanding of the premise, now I would like to begin with the examination of integrative knowledge presented in the philosophy of Michael Polanyi.

2. Michael Polanyi

Michael Polanyi was born in Budapest in 1891. He started his professional career as a physical chemist and then participated in world war one as a medical doctor. In 1920 he moved to Berlin to work at the Fibre Chemistry Institute, and later he also worked at the Physical and Electrical Chemistry Institute where he worked with Einstein. It was during this time that Hitler rose into power, and the dismissal of Jewish professors from academic institutions demonstrated to Polanyi the unjust practices of Hitler's regime. He resigned from his post in protest. In 1933 he accepted the offer of the Chair of Physical Chemistry at the University of Manchester in Great Britain. In 1946, with the publication of *Science, Faith, and Society*, the University of Manchester created a new chair for him without obligation to teach so that he could concentrate on his Gifford Lectures (1951 - 2) which later became his major philosophical work, *Personal Knowledge*, which was published in 1958. It was in this book that Polanyi

theorized the basic principle of tacit knowing which I am going to apply to the structure and formation process of integrative knowledge for integrative studies in the area of natural sciences.

According to Polanyi's theory of tacit knowing, in knowing anything there is a tacit element which is not specifiable and explanable. In the structure of tacit knowing, he recognizes two types of awareness: subsidiary awareness and focal awareness. This means that in the knowing process one attends from what is known to what can be known. In this process, what is known is used as a means which points to what can be known, which is an end, and thus, in the knowing process, one's attention is shifted from the means to the end. The end is the object of focal awareness, and the means, which is now known only subsidiarily, is the object of subsidiary awareness.

From the functional aspect of tacit knowing, subsidiary awareness moves in the direction of focal awareness. This movement can be characterized by "purpose," and, in the knowing process, when subsidiary awareness is directed to focal awareness, the purpose of the former is integrated into the latter. This is an ascending process which takes the two-level structure of tacit knowing as the basic unit that is with the object of subsidiary awareness at a lower level and the object of focal awareness at a higher level. The integration of both subsidiary and focal awareness is obviously done by the human mind which is called the self or the integrator. Thus, subsidiary awreness, focal awareness, and the integrator are the three co-efficients of tacit knowing.

As a scientist turned philosopher, Polanyi was a heuristic philosopher who first recognizes in the human mind the desire to discover solutions to problems. In natural sciences, a solution can be the discovery of a new thing or a new natural phenomenon that is, in his theory of tacit knowing, the object of focal awareness by integrating objects of subsidiary awareness. The discovery of a new thing or a new natural phenomenon is the aim of natural sciences. According to Polanyi, therefore, the entire discovery process in science as a knowing process goes through the integration process of tacit knowing which ivolves the objects of subsidiary awareness, the object of focal awareness, and the self as the integrator.

In terms of the structure of integrative knowledge, the object of focal awareness is a whole whereas the objects of subsidiary awareness are the parts of the whole. In the theory of tacit knowing that refutes the objectivist epistemology by recognizing the role of the self as integrator, a whole is understood as greater than the sum of its parts. The participation of the self as integrator makes the whole greater than the sum of its parts.

Polanyi uses perception as a paradigm for the discovery process of a whole. A whole, something new to be discovered, is first perceived by the self, the integrator, as a hidden reality. The perceived image of this hidden reality is called "tacit foreknowledge." How does the self come to have tacit foreknowledge? Since it is the working of intuitive imagination that takes place in the perceiving mind of the integrator, its process cannot be described explicitly. Nevertheless, tacit foreknowledge has real power that drives all creative thinkers to the discovery of yet undiscovered things. As a heuristic thinker, Polanyi, comparing the discovery process of a new thing to that of a solution to a problem, explains the process as follows:

> ... [T]he act of discovery...starts with the solitary intimations of a problem, of bits and pieces here and there which seem to offer clues to something hidden. They look like fragments of a yet unknown coherent whole. This tentative vision must turn into a personal obsession; for a problem that does not worry us is no problem: there is no drive in it, it does not exist. This obsession, which spurs and guides us, is about something that no one can tell: its content is undefinable, indeterminate, strictly personal. Indeed, the process by which it will be brought to light will be acknowledged as a discovery precisely because it could not have been achieved by any persistence in applying explicit rules to given facts. The true discoverer will be acclaimed for the daring feat of his imagination, which crossed uncharted seas of possible thought. (1)

Polanyi explains lucidly in this passage that, for a creative thinker and discoverer, tacit foreknowledge is "real", and it is "the daring feat of his imagination" that leads him to see a hidden reality. Until it is discovered, we do not know exactly what it is: "its content is undefinable, indeterminate, strictly personal." This does not mean, however, that there is no such thing. It is "real" as a possible reality. It is a whole in integrative knowledge, and the whole of integrative knowledge is always a possible reality. As a possible reality, it is an open-ended vision for the future that can someday become an actual reality of the present.

We can now say that a hiden reality is a real possible reality. But it does not become possible naturally of itself. The possibility is seen in the mind of a discoverer with his/her tacit foreknowledge. This experience does not come to a discoverer until he/she sees "clues to something hidden" from "bits and pieces here and there" which the discoverer works with for the discovery of a solution to a problem. In terms of integrative knowledge, these "bits and pieces" are integrative materials which in Polanyi's epistemology are subsidiary parts. As clues, they point beyond themselves to something hidden that is sought by the discoverer. That something hidden is the focal object which is, as Polanyi says, "a yet unknown coherent whole." The discoverer is an integrator. In this sense, all integrators are creative thinkers and discoverers.

Once the hidden reality of a whole is discovered in natural sciences and verified as an actual thing, it is no longer a possible reality. As an actual thing, it can then be reproduceable following mechanical procedures in a laboratory at any time. It is no longer the object of focal awareness with an open-ended vision and thus it loses the structure of integrative knowledge. Any actual thing that can be produced without the participation of the self as the integrator is not a subjec matter of integrative knowledge. It is a whole that is equal to the sum of its parts. Based on Polanyi's theory of tacit knowing, therefore, in natural sciences, integrative knowledge is possible only when it is related to a hidden reality, a possible reality, that is seen as an open-ended vision created by the imaginative mind of the self as the integrator.

3. Jürgen Habermas

The epistemology of Jürgen Habermas represents the second type of integrative knowledge that I am going to discuss in this paper. That is the integrative knowledge of social sciences. I have chosen him as one whose theory of knowledge represents integrative knowledge of social sciences both because his theory accepts the premise of integrative knowledge and because he is today regarded as one of the leading philosophers of social sciences in the West.

According to Richard J. Bernsteinm, Jürgen Habermas was already recognized as a leading social theorist in postwar Germany in the1960's when he was still less than forty years of age. How did he become a leading scholar at a comparatively young age? When the second world war ended, he was still a teenager and yet he was a very sensitive boy who "sat before the radio and experienced what was being discussed before the Nuremberg Tribunal." (2) Bernstein sympathizes with the questioning mind of Habermas at his sensitive age and poses the following questions that Habermas himself raised,

> How could one explain why a culture that had given rise to the tradition of Kant through Marx - where the themes of critical emancipatory reason and the concrete realization of freedom were so dominant - provided such fertile soil for the rise of Hitler and the Nazis? Why hadn't Germans resisted monstrous pathology more forcefully? (3)

With these questions, the intellectual journey of Habermas delved into "rethinking and appropriating the tradition of German thought that was left in shambles." (4) As a student, Habermas later studied Marx, Hegel, Schelling, Fichte, and Kant. That was not enough. He went beyond the German cultural tradition. His ever-widening intellectual journey has been incredibly broad. Bernstein summarizes it as follows:

> Habermas was deeply influenced by the American pragmatic thinkers, especially Pierce, Mead, and Dewey. He felt a strong affinity with the pragmatists' vision and understanding of radical participatory democracy. In the centrality of the idea of a fallibilistic critical community, and in the probing of the dynamics of intersubjectivity, he discovered the kernel of what he was to later call "communicative action" - action oriented to mutual understanding. Later he avidly read the writings of analytic philosophers, including Wittgenstein, J. L. Austin, and John Searle. No field of inquiry that was relevant to the reconstruction of social theory was beyond his grasp - including the "new" linguistics stimulated by the contributions of Chomsky and the theories of psychological and moral development elaborated by Freud, Piaget, and Kohlberg....
>
> He sought not only to learn from the major with trends of contemporary philosophy, but to grapple the sociological tradition and the different areas of sociology and social science. He has returned again and again to a critical encounter with Marx, Weber, Durheim, Mead, and Parsons. He has explored the intricacies of structural-functionalism,

systems theory, ethnomethodology, as well as the varieties of hermeneutical and phenomenological social science.

The most striking and impressive feature of Habermas' approach to the range and complexities of human inquiry is the way in which he weaves whatever he analyzes into a coherent whole. (5)

The diversity of ideas and subject matters from various academic disciplines that Habermas deals with in his writings is overwhelming. He analyzes and discusses them not for the sake of criticizing and then rejecting them but to incorporate and appropriate them into the system of worldview that he has developed in the past few decades of his life. In Bernstein's words, "he weaves whatever he analyzes into a coherent whole." He is a master of integrating different ideas into a coherent whole. Now I would like pose a question from an integrative point of view: how has he been able to integrate different ideas into a worldview? In other words, if I may borrow Bernstein's expression, how has he been able to "weave whatever he analyzes into a coherent whole?" Trying to find an answer to this question is the main objective of this section that deals with integrative knowledge of social sciences.

As philosopher of social sciences, Jürgen Habermas aims through his writings to anticipate a society in which the consensus of all participants is achieved through free communication without any external constraints and coercement. The consensus includes the subjective views of all participants in the society. Certainly this is an ideal society that, he thinks, is highly achievable with a rationalistic desire. The achievement of an ideal society, which is very much like the discovery of a new thing or a new phenomenon of nature in natural sciences, is the aim of his social philosophy. As Michael Polanyi recognizes a heuristic desire in the human mind for the discovery of a new thing or a new phenomenon in natural sciences, Jürgen Habermas recognizes a rationalistic desire for the achievement of an ideal society. Since this society is yet to be achieved, it is very much like a hidden reality in natural sciences that is yet to be discovered. In the desire to achieve an ideal society that Habermas calls rationalistic desire, there is an element of subjectively oriented creative potentiality. What I mean to say is that Habermas' concept of "rationalistic" in rationalistic desire is not purely objectivistic. His concept of reason that includes the "subjectively oriented creative potentiality" is very different from the empiricist concept of reason which attempts to eliminate the subjective element from its content.

From the structural view of integrative knowledge, the ideal society sought by Habermas is "a coherent whole" that can be achieved with the "subjectively oriented creative potentiality." It is, therefore, bound to be greater than the sum of its parts. With Polanyi, the perceiving act is a means for the self, the integrator who uses it for the integration of subsidiary objects, to discover a hidden reality as the focal object. Likewise, with Habermas, reason is a means for the achievement of an ideal society. As a creative thinker, as mentioned above, he derived ideas and thoughts from many different sources. All of them work like objects of subsidiary awareness in Polanyi's theory as they are integrated into his grand vision of an ideal society. As a philosopher of social sciences, however, Habermas has a different concept of self from that of

Polanyi. The self in Polanyi's theory is an individual integrator who commits oneself in the discovery process of a hidden reality in nature. But for Habermas, there is no individual self separated from other members of society. In general, he always places an individual self within the context of society and this concept of self is also reflected in his understanding of reason.

What then is Habermas' concept of reason? He is very critical of what the empirical and positivist concept of reason has done to science and humanities. He never denies the validity of science. He is always for it. But he is against modern positivism. One of his major works, *Knowledge and Human Interest*, which was published in 1968, is a critique of modern positivism. In this book, he says that positivism has a mistaken concept of science that reduces all knowledge to a belief in itself. He calls this phenomenon scientism, and then he says,

> "Scientism" means science's belief in itself: that is, the conviction that we can no longer understand science as one form of possible knowledge, but rather must identify knowledge with science. The positivism that enters on the scene with Comte makes use of elements of both the empiricist and rationalist traditions in order to strengthen science's belief in its exclusive validity after the fact, instead of to reflect on it, and to account for the structure of the sciences on the basis of this belief. (6)

Science, according to Habermas, is one form of possible knowledge. It is an epistemological question. It cannot be just reduced to a set of methodological principles. Epistemology is philosophical thought that honors human reason. A methodology emptied of philosophical thought mutilates human reason, and by strengthening "science's belief in its exclusive validity after the fact," the ability to "reflect" upon our actions by reaon is lost. The task of *Knowledge and Human Interest* is to rehabilitate the lost quality of reason in human affairs.

For reason to take a reflective role upon human affairs, it has to belong to the knowing subject who experiences. The knowing subject is the self who reasons. As mentioned above, Habermas believes that the self is not an atom isolated from social life but rather it is formed through work and interaction with others in society. As a faculty of mind, reason plays an important role in this formation process of self. How then does it work in actual social life? Its role begins with its reflective ability related to the critical thinking of self. Habermas believes that reason is inherently related to the critical thinking of self that is self-reflection. The goal of self-reflection is to emancipate oneself from irrationally-deceived knowledge. Self-reflection is, therefore, intellectually a self-formative process. He says, "The experience of reflection articulates itself substantially in the concept of self-formative process." (7) Socially, the self-formative process means, according to him, for self to become an autonomous and responsible person. Habermas elaborates the concept of self-reflection as follows:

> in self-reflection, knowledge for the sake of knowledge comes to coincide with the interest in autonomy and responsibility. For the pursuit of reflection

> knows itself as a movement of emancipation. Reason is at the same time subject to the interest in reason. We can say that it obeys an emancipatory cognitive interest, which aims at the pursuit of reflection. (8)

In order for self to be autonomous and responsible, one has to be free from one's dependence on false consciousness which leads oneself to have irrationally-deceived knowledge. How can one detect false consciousness? Only through reason and self-reflection. Habermas explains the working of reason and self-reflection as follows:

> In the interest in the independence of the ego, reason realizes itself in the same measure as the act of reason as such produces freedom. Self-reflection is at once intuition and emancipation, comprehension and liberation from dogmatic dependence. The dogmatism that reason undoes both analytically and practically is false consciousness: error and unfree existence in particular. Only the ego that apprehends itself in intellectual intuition as the self-positing subject obtains autonomy. The dogmatist, on the contrary, because he cannot summon up the force to carry out self-reflection, lives in dispersal as a dependent subject that is not only determined by objects but is itself made into a thing. He leads an unfree existence, because he does not become conscious of his self-reflecting self-activity. (9)

The role that reason takes in self-reflection includes a greater function than what is normally understood as the proper function of reason in positivism. According to Habermas, it has an element of intuition. It is "intellectual intuition." In this intellectual intution, ego "apprehends itself" and at that moment "the self-positing subject obtains autonomy." If viewed from the perspective of positivistic epistemology, Habermas' concept of reason inclusive of "intuition" is certainly expansive and idealistic. In fact, critics of Habermas bring out this issue and identify him as a neoclassical idealist. (10) The "intuition" element in Habermas' concept of reason is, however, never expansive to the degree of being called as idealistic. As Michael Pusey states, "Habermas explicitly rejects the idealist epistemology of innate reaon!" (11) It is true, however, that his concept of reason is not limited by the objects of experience. It has the "intuition" element that eventually leads the reasoning subject to create an ideal society, which is a coherent whole.

It is now clear and certain that Habermas' concept of reason is intuitive reason and thus creative reason. With this concept of reason, Habermas believes, the reasoning subject is able to achieve its autonomy. Human autonomy, however, requires transcendence from natural conditions, which means emancipation of human beings from their embeddnedness in nature. Reason is, therefore, an emancipating act or a transcending act from natural conditions. Based on this concept of reason, Habermas creates and develops the concept of a rational society as an ideal one. Onto this society, reason constantly transcends not just natural conditions but also whatever the enforced conditions that hold, delay, confine, and embed it. In this process,

reasoning subjects constantly try to understand the knowledge of others in their relationships with them. Obviously in human societies there is no intersubjective understanding without communication. That is why, for Habermas, there cannot be a rational society without communication. Through communication with others, the reasoning subject constantly acquires new knowledge from them.

In Habermas' epistemology, reason is inherently related to self-reflection which is an act of correcting defective knowledge. It is a rational process that takes place in the mind of a reasoning subject. For Habermas, correction of defective knowledge is not the outright rejection or elimination of it. It is instead the appropriation of it in an appropriate place as part in the coherent whole of one's worldview. The rational society as an ideal one is a coherent whole. Through communication, the reasoning subject acquires new knowledge and, based on that newly acquired knowledge, reflects upon old knowledge and then recognizes defective elements in it. The new and old knowledge is now all appropriated in the coherent whole of a rational society. In other words, all knowledge is appropriated in an ideal society.

From the view of integrative knowledge, the appropriation of all knowledge is structurally no different from the integration of multiple ideas that takes place in integrative studies, and thus, as mentioned above, the rational society as an ideal one is none other than an integrated whole. Multiple units of knowledge and ideas can be respectively regarded as integrative units which are integrated by intuitive reason into an integrated whole. This whole is a possible reality, very much like a hiddden reality in Polanyi's theory of tacit knowing, which is yet to be achieved in the future.

4. Paul Ricoeur

Now I would like to discuss the third type of integrative knowledge that is generally found in the humanities area in the academic community, and the model that I would like to use for integrative knowledge for humanities is the theory of narrative text presented by Paul Ricoeur.

Paul Ricoeur was born in 1913 and in his eighties he is still actively engaged in writing. Today he is regarded as one of the greatest living French philosophers. Although he is primarily a philosopher, his interest in religion, history, literature, and psychology is revealed everywhere in multiple volumes of his writings. Reading any one of his books indicates in one way or another how he utilizes knowledge from various disciplines for the construction of his world-view. He is certainly a great interdisciplinary thinker. From the view of integrative studies, the world-view he presents is, without a question, a new whole. I will try to explain in this section how he develops his world-view into a new whole that is found in narrative text.

As philosopher, it is rather unusual that he has turned much of his attention to the question of literary theory especially in his later works beginning with *Interpretation Theory: Discourse and the Surplus of Meaning* in 1976 and culminating with three volumes of *Time and Narrative* in 1985. Since then he has written numerous articles and has had interviews discussing topics related to the writing and reading of stories. (12) Why is he so much interested in literary theory, writing, and reading as a

philosopher? One answer to this question is that he has a tremendous concern for language. He believes that the meaning of human life is directly related to the self-understanding of an individual and it is found in narrative which is the product of language. Without language there is no narrative, which means, no meaning to human life. Another concern that is equally important as language to him is his notion of time. Time and narrative are inseparable since narrative is intrinsically related to its temporal process.

Paul Ricoeur distinguishes human time from natural time which is represented by chronological clock time. Human life is without meaning if it is lived in natural time simply preserving biological life. Meaning transforms biological life into human life. Where then do we get that meaning from? We get it through language. Language is the source of human time. It makes an individual biological person into a human. The intellectual realization of the meaning of an individual human life is achieved through the expression of language. Self-understanding is, therefore, directly related to understanding the various roles that language plays, especially the role it plays in narrative since its temporal process moves from natural time to human time.

Ricoeur argues that by reading narratives readers become potential narrators themselves who project creatively their own future lives based on the meaning that is revealed in narratives. In other words, we, as readers of stories and potential narrators, constantly create our own lives. The way of understanding myself, which includes the past, present, and future life of myself, can be, therefore, accomplished by telling the story of my own life. Ricoeur argues that telling the story of one's life is the way of understanding of oneself. Obviously not all stories help us create and make our own lives meaningful. Only good stories do. How do we know which are good stories? Stories as narrarive text have structures that are culturally honored. Ricoeur makes a thorough study of the structure of narrative text in terms of time, and I will explain his concept of narrative structure in order to help us understand what good stories are and how they affect readers in their self-understanding.

From the view of integrative studies, it is very interesting to find in Ricoeur's theory of narrative structure the very structure of integrative knowledge that I have found in the tacit knowing of Polanyi and an ideal society of Habermas. Let me examine now Ricoeur's theory of narrative structure.

Linguistically narrative is made up of words. According to Ricoeur, however, the meaning of language that really affects human life begins not with words, but with a sentence. A sentence is the basic unit of discourse. How then are words and sentences related to discourse? In order to understand their relation, first, we need to examine the structuralist approach to the function of language. Linguistic structuralism was developed by the Swiss linguist Ferdinand de Saussure in the earlier part of this century. (13) De Saussure distinguishes language as *langue* and as *parole*. According to Ricoeur, the scientific study of linguistic structure puts a greater emphasis on *langue* aspects and ignores *parole* aspects. Language then loses its capacity to mean something when it is spoken as a means of discourse. By ignoring *parole* aspects, without recognition of persons involved in speaking and listening, language turnes out to have a structure and systems that can be analyzed into parts like material

objects. Words in a sentence are then treated just like constitutive elements of a mechanical whole of the sentence. There is no discourse with *langue*. Because words of *langue* carry only those meanings that are already established in a dictionary, they are a set of codes. Communication by *langue* is precise and scientific. But it is anonymous and collective. There is no personal message in this form of communication. Paul Ricoeur distinguishes the differences between the message and the code as follows:

> The message and the code do not belong to time in the same way. A message is a temporal event in the succession of events which constitute the diachronic dimension of time, while the code is in time as a set of contemporaneous elements, I.e., as a synchronic system. A message is intentional: it is meant by someone. The code is anonymous and not intended. (14)

This passage makes it very clear that the recognition of the diachronic dimension of time in the role language plays in human communication is crucial. Ricoeur is not satisfied with structural linguistics that excludes the personal message in communication.

In contrast to the linguistic study of the *langue*, Ricoeur wants to include the *parole* in language and to restore the diachronie of discourse. In other words, he wants to bring to language the subject who speaks: the someone who says something, or the someone who says something to someone about something. Someone's telling something to someone about something is an event that takes place in the diachronic dimension of time. In this event, the meanings of words go beyond the level of the dictionary meanings. When someone speaks a word, the word carries the intentionality of the speaker who wants to mediate his/her intention through the word, not just the limited meaning of the word given in the dictionary. Strictly speaking, when a word finds its meaning only in a dictionary, it does not refer to reality or to a real thing of this human world. It has no meaning outside the dictionary meaning. The system is closed in on itself. The linguistic meaning of reality is blocked by being imprisoned in its own system. In this sytem, a sentence, as a collection of words, is not a new whole since its meaning is nothing but the sum of its parts which are the meanings of words.

As mentioned earlier, Ricoeur wants to restore *parole* aspects of language. *Parole* is a speech act. As a speech act, it has someone as its subject who speaks to someone about something. It is very much like the recognition of the self in Polanyi's tacit knowing and the subject in Habermas' ideal society. With the subject in *parole*, the speech act cannot be controlled by the laws of *langue*. *Parole* has its own structure which is called "discourse." In discourse, now the meaning is given priority over the sign and thus the concern in the role of language is now shifted from semiotics to semantics. Although a sentence is structurally made up of signs, it is not itself a sign. Ricoeur explains its phenomenon as follows:

> The objects of semiotics - the sign - is merely virtual. Only the sentence

> is actual as the very event of speaking. This is why there is no way of passing from the word as a lexical sign to the sentence by mere extension of the same methodology to a more complex entity. The sentence is not a larger or more complex word, it is a new entity. It may be decomposed into words, but the words are something other than short sentence. A sentence is a whole irreducible to the sum of its parts. It is made up of words, but it is not a derivative of its words. A sentence is made up of signs, but it is not itself a sign. (15)

With the recognition of the sentence as the basic unit of discourse, the role of language now moves into a new domain: the domain where things are said by someone to someone about something. This "about something" said in a sentence is "a whole irreducible to the sum of its parts." It is a new reality created by integrating all the meanings of its parts. It has the structure of integrative knowledge. This is the starting point for the theory of narrative text which says to its readers something about something.

Discourse is an event of speaking "about something," and in this event of speaking "about something" there is the advent of a world that can only be captured by the meaning of discourse. The event of discourse vanishes, but its meaning endures. In other words, the event is rescued in its meaning. A new world is now presented by this meaning, and it is called the world of reference. Since semiotics deals only with the meaning of "something," not the meaning of "about something" to which that "something" refers, the world of reference is found in the semantics of discourse. It is found beyond the world of a linguistic system. Discourse, therefore, breaks through the boundary of the semiotic system to the world that is found outside of language. Discourse opens to the world of new meaning. This world is a world of hope and possible reality. It is a new whole in terms of integrative knowledge.

There are two kinds of discourse: the oral and the written. The narrative text belongs to the latter. Unlike in oral discourse, the author of written discourse does not directly face the readers of a text, and thus, the intention of a text's author needs to be interpreted by the readers as they read the text. According to Ricoeur, hermeneutics of a text by its readers begins with written text. In the act of hermeneutics of a text by its readers, there is a distance between the intention of author's meaning of the text and the textual meaning interpreted by its reader. In other words, the text, by having a meaning that is different from its writer, gains autonomy from its author. In other words, the text is now emancipated from the narrow psychological world of its author and gains the capacity to open its readers to the world of its meaning. This is the world that a text presents to its readers. It is the world of textual meaning.

According to Ricoeur, the self cannot understand itself without going through mediation of language. By understanding the world of textual meaning, the self, as a reader of the text, comes to understand itself. The textual world is a medium for self-understanding that among all genres of written texts, Ricoeur thinks, the narrative most effectively opens up a possible world to its readers, because he believes that life is a story. A story is a synthesis of multiple events, and, as Aristotle believed, a narrative

organizes those multiple events into an intelligible whole. This "intelligible whole" is the textual meaning that all good stories present to their readers. The self, as a reader, understands new meaning by reading good stories. A story as a narrative text is not a dead body of written materials. It is not a sel-enclosed entity. The world of the textual meaning presented in good stories is a proposed world, a world in which one could possibly live in the future. It is different from the one in which we presently live. As a proposed world in the story, it is a new world to its readers. But the revelation of the proposed world, at the moment of understanding it, "gives the subject (the reader) new capacity of knowing himself." (16) That is why Ricoeur believes that narrative texts provide the most effective path to self-understanding.

5. Conclusion

It is Polanyi who convinces us that the discovery of new things in natural sciences requires the structure of integrative knowledge. It is Habermas whose concept of the subject's intuitive reason leads us to achieve in social sciences an ideal society that has the structure of integrative knowledge. It is Ricoeur who is telling us that narrative text, with its structure of integrative knowledge, reveals the world of reference and gives the reader the power of self-understanding, which is the aim of humanities. The examination of these three types of integrative knowledge, which we find practically in almost all academic communities convinces me that what determines integrative studies is primarily the formation process for, not the content of, the structure of integrative knowledge. The content, such as new things to discover, an ideal society to achieve, or self-understanding, determines the type of integrative studies. At the beginning of this paper, I presented as the fundamental principle for the structure of integrative knowledge the following premise: a whole is greater than the sum of its parts. The formation process toward this whole is essentially made by accepting the self as the discoverer in natural sciences, as the participating subject of an ideal society in social sciences, and as the self-reflecting reader of a narrative text in humanities.

In all three types of integrative knowledge, the integrative reality is presented as a hopeful and possible reality that is to be achieved in the future. What exactly it will be is not known yet. That is why it can be understood only through metaphors and interpretations. The possibility of an integrative reality begins with the questioning of the present situation by the self who is not satisfied with the present reality. The self searching for an integrative reality is a questioner, a searcher, or a sceptic. The self as an integrator has desire to find or wants to be more than what he/she has or is. That is why an integrative reality is found in the world of another dimension that is first sought by intuition. A new thing in nature, an ideal society, or the world of reference is all first found as an ideal reality. Integrators are undoubtedly idealists, not in the sense of metaphysical idealism, but as those who stand firmly on earth and try to make it a better place to live in. They integrate what they already know to achieve what is yet to be known. What we already know are the materials that integrators use as units or parts for an integrative whole which is the integrative reality. Integrators are, therefore, reality-based-idealists.

The act of integration is a dynamic process of achieving an ideal. Since there are many different ideals, there are many different types of integrative knowledge, and, based on those different types, there are also many different types of integrative studies. Since ideals are to be achieved in the future, I believe, integrative studies are the future-oriented studies that examine primarily the dynamic aspects of the integrating process for achieving those ideals.

Notes:

1. Michael Polanyi, *The Tacit Dimension* (Garden City, NY: Doubleday, 1967), pp. 75-76.

2. The short autobiographical description from which this passage came from originally appeared in Habermas' article "The German Idealism of the Jewish Philosophers" which was included in his book *Philosophical-Political Profiles* (Cambridge, MA., The MIT Press, 1983). I first read this passage in the introduction that Richard J. Bernstein wrote to the book he edited *Habermas and Modernity* (Cambridge, MA., The MIT Press, 1985).

3. Richard J. Bernstein, *Habermas and Modernity*, p.2.

4. Ibid.

5. Ibid., p.3.

6. Jürgen Habermas. *Knowledge and Human Interest*, tr. Jeremy J. Shapiro (Boston, Beacon Press, 1971), pp. 4-5.

7. Ibid., p. 197.

8. Ibid., pp. 197-198.

9. Ibid., p. 208.

10. For more concrete information on this particular criticim, read Michael Pusey, *Jürgen Habermas*, (Winchester, Sussex, GB., Ellis Harwood, 1987), p. 22.

11. Michael Pusey, *Jürgen Habermas*, p. 22.

12. Many of those articles and interviews are included in *A Ricoeur Reader: Reflection and Imagination*, ed. Mario J. Valdes (Toronto: University of Toronto Press, 1991).

13. His famous theory was first published in *Cours de linguistique générale* (Paris: Payot, 1916), tr. Wade Baskin, *Course in General Linguistics* (New York: (McGraw-Hill, 1966).

14. Paul Ricoeur, *Interpretation Theory: Discourse and the Surplus of Meaning* (Fort Worth, TX: The Texas Christian University Press, 1976), p. 3.

15. Ibid., p. 7.

16. Paul Ricoeur, *A Ricoeur Reader: Reflection and Imagination*, p. 97.